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Three New Species and a Subspecies of the Genus *Mozena* (Heteroptera, Coreidae)

BY HERBERT RUCKES¹

While studying several rather large collections of coreids, the author has come to the conclusion that a number of new species of the genus *Mozena* may be erected at this time. In all probability additional ones will be found as still other collections are examined and more extensive collecting is carried on, especially in tropical and subtropical areas.

In the course of this undertaking the author has become impressed by the fact that one North American species widely identified as *M. lanceolata* (Herrich-Schaeffer) does not at all conform to the original description and the colored figure that Herrich-Schaeffer includes in his "Atlas." Herrich-Schaeffer definitely states that in *M. lanceolata* the over-all color is dark brown, the basal segment of the antennae is black (*schwarz*), that the humeri are bluntly angled (*stumpfen Ecken*), that the scutellum is dark with a very pale border (*Rand des Schildschens am hellsten*), that the connexivum is strikingly alternated (*schwarz und gelb*), and that the raised lines on each side of the abdominal segments are oblique (*schrägstehenden*). The species that so often has heretofore been determined as being *lanceolata* is a much paler form, with sharp-angled humeri, a pale scutellum, a vaguely and incompletely alternated connexivum, and with more or less straight rather than oblique laevigate lines on each abdominal segment. This species is apparently restricted to the southwestern part of the United States and northern Mexico. Herein I am describing it as *Mozena arizonensis*.

¹ Research Associate, Department of Insects and Spiders, the American Museum of Natural History, and Professor Emeritus, the City College of New York.

Mozena arizonensis, new species

Over-all color variable but tending to be olivaceous tan with a light castaneous suffusion, lighter than in allied species. Basal three segments of the antennae concolorous pale orange, orange-brown, or dull yellow, terminal one dusky; antennal segmental ratios: male: 142/140/109/109; female: 110/108/91/91; i.e., segments I and II subequal, III and IV subequal, each of the latter about one-sixth shorter than the former. Head above, pale and usually concolorous, the eyes reddish fuscous, ocelli sanguineous; a pair of small, ivory-colored tubercles behind each eye.

Pronotum irregularly punctate, producing a somewhat rugose surface with no evident discal tuberculations such as are frequently found in allied species. Anterolateral margins before the humeri straight, sometimes very obscurely sinuate, and provided with a few inconspicuous, rather evenly spaced tubercles; humeri lunately flaring, each terminating in an acute, almost acuminate, slightly retrose tip; posterior margin of each humerus serratulate.

Scutellum slightly shorter than wide across the base (101 by 109), transversely rugose, and usually concolorous dull yellow; if not concolorous, then only obscurely darkened centrally.

Hemelytra somewhat darker than adjacent parts, the discal portion with a reddish brown tinge; the costal and apical margins dirty ivory-yellow, with a concentration of the same color apically; numerous variable pale stellate points scattered over the corium; hemelytral membrane dark castaneous to fuscous; hind wings almost hyaline, with only a faint smoky tinge.

Connexivum narrowly exposed, alternated dark and light, but not conspicuously so; the posterior half of the segment darker, the coloring more intensified and distinct on the posterior three or four segments, the anterior ones only vaguely alternated, if at all.

Under surface of the head, sometimes the first antennal segment, the prothorax and mesothorax, the anterior and middle tibiae, and all tarsi tending to be pale olivaceous, sometimes with a slight reddish tinge. Under surface of metathorax and abdomen suffused with red, brown, or cinnamon over a paler dirty yellow or tan background, median portion of the abdomen usually the palest; the raised laevigate lines of each side of the abdominal venter, parallel to the margins of the segment, not oblique, and collectively forming one continuous line, not an interrupted series of ridges on each side, as in allied species.

Inner surface of the posterior femora in varying shades of castaneous, the outer surface always paler; usually three longitudinal dorsal rows

of small tubercles present although there is a tendency for the ectal row to become obsolescent, particularly in the female. At least the proximal half (in the males much more) of the inner surface of the hind tibiae dark fuscous to piceous, distal portion paler; the outer surface always paler and sometimes with an olivaceous tinge.

The upper surface of the abdomen, as seen after the wings are spread, muddy orange in color, with variable blotching and suffusion of dusky brown which is usually concentrated posteriorly.

Male genital segment similar to that in allied species, but contrastingly paler than the adjacent abdominal plates.

Described from 80 specimens.

HOLOTYPE: Male, 21 mm. long; 8.75 mm. across humeri; 7.0 mm. wide through abdomen. Patagonia, Santa Cruz County, Arizona, July 23, 1937. Deposited in the American Museum of Natural History.

ALLOTYPE: Female, 19 mm. long; 8.0 mm. wide across humeri; 7.4 mm. wide through abdomen. Tucson, Pima County, Arizona, June 6, 1952. Deposited in the American Museum of Natural History.

PARATYPES: *Arizona*: Maricopa County, Phoenix, April 16, 15 males, six females; Yavapai County, no date, two males, two females; Gila County: Globe, no date, one male, one female; Ash Creek, August 15, 1920, two males; Roosevelt, August 15, 1920, one female; Sierra Ancha Mountains, no date, one male; Pima County, Sabino Canyon, June 6, 1952, three males, five females; Tucson, June 6, 1952, three males, two females; San Vicente, June 10, 1952, one male, five females; Redington, September 1, 1950, one female; Pinal County, Florence, July 27, 1952, two males; Oracle, July 11, 1940, one female; Chandler, July 16, 1940, three males; Cochise County, Wilcox, September 8, 1950, one male; Coconino County, Flagstaff (Oak Creek Canyon), July 27, 1950, one male.

Sonora: Pitiquito, July 4, 1952, four males, five females; Pesqueira, July 20, 1952, one male; Naco, August 15, 1949, one male; Magdalena, July 23, 1952, two males, one female; Minas Nuevas, August 7, 1952, one male, one female; Navajoa, August 2, 1952, one male. *Chihuahua*: Ojo Laguna, June 30, 1947, one male. *Baja California*: El Mayor, June 15, 1952, one male.

All paratypes are deposited in the American Museum of Natural History.

As indicated above, there has been some confusion in the proper determination and naming of this species. The flaring, sharp-pointed humeri suggest relationship to *M. lunata* (Burmeister), but the pale over-all color in contrast with the very dark fuscous shades exhibited by *lunata*

definitely set it off from that species. The muddy admixture of orange-brown and fuscous seen on the abdominal dorsum seems to show linkage to *M. obtusa* Uhler, where a similar coloring occurs. Very definitely the species just described is not the true *M. lineolata* (Herrick-Schaeffer). The general body proportions are somewhat like those of *lunata*.

Mozena tomentosa, new species

A relatively robust species with a rather widely flaring abdomen; somewhat in general structure like *M. lineolata* (Herrick-Schaeffer). Above fuscous, with paler markings as specified below; below dull reddish brown, not the bright cinnamon-red found commonly in allied species; an over-all appressed tomentum present, frequently interspersed with some fine erect setae.

Head squarish, as usual, disc dark fuscous to piceous bordered with a lighter shade of brown; eyes dark brown, ocelli dull red; no postocular tubercles evident. Antennae reddish brown, with the two middle segments slightly lighter, the over-all length of the antennae proportionately shorter than found in other species of this genus; segmental ratios: 110/95/80/90.

Pronotal surface somewhat undulant, with a recognizable broad groove and shallow in the median line, posteriorly; anteriorly there are numerous irregularly placed, small, blunt tubercles on the disc, especially in the region of the collar; humeri exceptionally large, lunately flaring, slightly upturned and terminating in an acute point; anterolateral margin of the pronotum rather short, less than half the median length of the pronotum and provided with pronounced conical tubercles, each terminating in an erect seta; several shorter setigerous tubercles on the anterior margin of each humerus; posterior humeral margin irregularly and shallowly erose but not serratulate.

Scutellum as wide across the base as long (120 by 120); punctures coarser and more widely spaced than on pronotum, giving a vague rugose appearance to the surface; disc fuscous, with a narrow pale yellow border.

Hemelytra more or less concolorous dull brown, finely, evenly, but shallowly punctured; no apparent contrasting paler markings present; hemelytral membrane bronzy-brown.

Connexivum widely expanded and strikingly alternating fuscous and reddish orange, the fuscous band occupying at least the posterior three-fourths of each segment; abdominal dorsum, as seen after the wings are spread, piceous, with median sublunate orange spots on the fourth and fifth segments; hind wings dark, smoky brown.

Rostrum, all pleura and legs dull reddish fuscous; sternal areas and

abdominal venter dull reddish brown; a continuous dull yellow, tuberculate ridge running diagonally across the thoracic pleura and pairs of dull yellow, somewhat sigmoid laevigate ridges obliquely placed on each abdominal segment. Hind femora slightly darker on the inner surface and provided with three longitudinal rows of very stout conical tubercles, even in the female visible to the naked eye. Hind tibiae concolorous throughout, even on the inner surfaces. Legs and antennae provided with many fine erect setae interspersed with the tomentum.

Described from one specimen.

HOLOTYPE: Female, 20 mm. long; 9.0 mm. across the humeri; 10.5 mm. across greatest width of abdomen. Antigua, Guatemala, August 16, 1947. Collected by Dr. and Mrs. Charles Vaurie. Deposited in the American Museum of Natural History.

ALLOTYPE: None.

PARATYPES: None.

There appears to be a close relationship between this species and *M. lanceolata* (Herrick-Schaeffer), but the copius tomentose covering of the body readily distinguishes it along with differences in color, acuteness of the humeri, the somewhat more widely dilated abdomen, the piceous abdominal dorsum, and the presence of numerous fine setae. In some respects there seems to be affinity to *M. lunata* (Burmeister), but the shorter antennae and more widely expanded abdomen set it off from that species.

Mozena pallisteri, new species

An elongate species, above dark fuscous to piceous, with no contrasting markings except a sprinkling of pale points on pronotum and hemelytra; below, variable dusky to brownish yellow, with a reddish suffusion.

Head squarish as usual, fuscous above, with a slightly darker median area; eyes dark brown, ocelli crimson; postocular tubercles absent or at the most obsolescent; basal three antennal segments fuscous to piceous above, paler below, terminal segment dull orange. Antennal ratios: male: 150/140/110/130; female: 140/130/100/120, i.e., segment III shortest and about three-fourths of the length of segment I.

Surface of pronotum subrugose, with a scattering of small pale points; anterolateral margins before the humeri, straight with a few irregularly spaced, inconspicuous pale tubercles. Humeri not lunately expanded, protruding only a short distance beyond the base of the hemelytra and obtusely rounded apically, with no serratulate posterior margins; diameter of pronotum across the humeri hardly, if at all, greater than widest diameter of the abdomen.

Scutellum obsoletely rugose, very slightly longer than wide at the base (128 by 120), concolorous dusky to fuscous except in the female where the apex is pale stramineous. Hemelytra dusky to fuscous, not contrastingly marked except for an irregular scattering of pale points; heme-lytral membrane smoky brown. Hind wings clear, with only a very pale smoky tinge.

Connexivum narrowly exposed, more or less concolorous fuscous (in the male definitely piceous); if alternated, the alternations are very inconspicuous or obsolescent. The abdominal dorsum, as seen after the wings are spread, velvety black, with a median row of at least three sub-circular luteous spots.

Lateral surface of each acetabulum and the entire surface of the pro-pleuron dirty ivory; remainder of the venter variable dull brownish yellow, with a rufescent overcast. Mesosternum dusky each side of a broad median pale vitta. The oblique raised pale lines on each side of the abdominal segments, usually well defined in allied species, here obscure and somewhat diffuse. No tuberculate laevigate oblique ridges on the thoracic pleura.

Inner surfaces of all femora fuscous, outer surfaces paler and reddish; prothoracic and mesothoracic tibiae and all tarsi rufescent brown (in the male somewhat darker); metathoracic tibiae dark fuscous to piceous on entire inner surface, outer surface dusky; in the female the hind tibiae much more dilated than in allied species provided with a large median spine and more nearly approaching the proportions found in the male, although the bending in the middle is less pronounced. In the male all colors are more intensified and tend towards the darker shades.

The genital segment of the male and its surrounding area contrastingly very dark, the cup provided with a median obtuse carina which terminates in a short transverse ridge somewhat below the weakly concave apical margin of the segment.

Described from three specimens.

HOLOTYPE: Female, 23 mm. long; 8.25 mm. across humeri; 8 mm. wide across abdomen. Mexcala, Guerrero, Mexico, June 3, 1946. Collected by J. and D. Pallister. Deposited in the American Museum of Natural History.

ALLOTYPE: Male, 26 mm. long; 8.5 mm. across humeri; 8.5 mm. wide across abdomen. Mexcala, Guerrero, Mexico, June 3, 1946. Collected by J. and D. Pallister. Deposited in the American Museum of Natural History.

PARATYPE: Female. Same data as above.

The very elongated form and dark color readily distinguish this species

from all other known ones. The color approaches the black variety of *M. lunata* described by Stål; this is especially true of the male. The very inconspicuous and blunt humeri are much like those found in *M. obesa* Montandon, but the body proportions are again at variance. The velvety black abdominal dorsum with its median row of yellowish spots is quite distinctive.

Mozena lunata rufescens, new subspecies

Over-all color castaneous to reddish brown, but lighter in shade than *Mozena lunata* (Burmeister), of which this form apparently is a northern geographical race. Basal three antennal segments fuscous above, paler below, terminal one dull orange; segmental ratios: 130/120/95/120, i.e., segment III shortest, segments II and IV subequal. Postocular tubercles absent or obsolescent.

Pronotum like that in *lunata* but less definitely impressed anteriorly and less darkly colored about the humeri.

Pale spots at basal angles and apex of scutellum very vague, not contrastingly evident as in *lunata*. Hemelytra uniformly colored with no concentration of pale markings on the apical border. Connexivum much less contrastingly alternated, sometimes almost concolorous. Abdominal dorsum, as seen after the wings are spread, orange-brown to orange, with paler subcircular spots on fourth and fifth segments. In *lunata* the abdominal dorsum is piceous and the spotting very contrasted.

The pairs of oblique ridges on each abdominal segment less raised and more poorly defined than those in *lunata*, as are the diagonal tuberculate vittae on the thoracic pleura, sometimes these vittae altogether absent. Genital segments alike in both species.

Described from 12 male and nine female specimens.

HOLOTYPE: Male, 20 mm. long; 8 mm. across humeri; 7 mm. wide across abdomen. Kingsville, Texas, no date. Deposited in the American Museum of Natural History.

ALLOTYPE: Female, 20 mm. long; 8.25 mm. across humeri; 8 mm. wide across abdomen. Kingsville, Texas, no date. Deposited in the American Museum of Natural History.

PARATYPES: *Texas*: Kingsville, no date, six males, four females, deposited in the American Museum of Natural History; Corpus Christi, July 21, 1947 (W. M. Gordon), three males, four females, deposited in the Cornell University collection; Sutherland Springs, June 26, 1917, two males, deposited in the Cornell University collection.

As stated above, this subspecies, occurring in a more northerly latitude, appears to be a color phase of *Mozena lunata*. The typical speci-

mens of *lunata* that I have examined come mostly from Mexico and Central America. Only in rare instances have specimens been taken north of the Mexican border. Of almost 120 specimens of *lunata* in the collection of the American Museum of Natural History, only two are recorded from Brooks County, Texas. All others are from varying localities ranging from Sonora, Mexico, to Guatemala. They are invariably dark with contrasting paler markings. In the female of the subspecies the dark and light alternations on the connexivum are more conspicuous than those in the male.